

Winnowing – Cleaning Your Homegrown Grain for Eating

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After [threshing](#) grain, there is much extraneous plant material that needs to be separated from the seed. First you will need to “scalp” off the large pieces of stem and hulls with a screen that has holes big enough to let the grain pass through. With sorghum, this is easily accomplished using a piece of 1/4” hardware cloth. Amaranth can be scalped with 1/8” hardware cloth. After the initial scalping step, it's a good idea to remove as much of the “fines” as possible. For this you will need a screen that just lets the dust pass through, not the seeds. Sorghum works well with ordinary window screen. For amaranth and poppy, you'll need something much finer. If you skip this step, the dust can blow off during the winnowing but be prepared for a lot of particulate matter in the air which can get in your eyes and lungs. You will probably want to wear a dust mask and goggles are not a bad idea either. If dust really bothers you, this added protection is recommended for threshing as well.

After these initial steps, next comes the actual [winnowing](#). You can make use of the wind outdoors or go high-tech and use an expensive fanning mill. But if you want the control of a fanning mill without a big investment in equipment, here is what we did with some off-the-shelf stuff from the local lumber yard. We started with a Stanley squirrel-cage fan. It has 3 speeds but even the low speed was too powerful, so we added a rotary dimmer switch in place of the double A/C outlets it came with. A squirrel-cage fan is preferable to a propeller type because the air flow is “laminar,” or even all the way across. This gives you a square “slot” of air instead of a big turbulent “tube” of air for the seeds to fall through. With the dimmer, the speed is adjustable so you can fine-tune the air flow until it is just right. You will want to set it so that most of the heavy seeds fall into the first pan. The second pan catches a few large seeds but mostly it will collect the smaller or immature grains. The contents of this pan make fine chicken feed. If the air speed is set right, the third pan contains mostly chaff. This, plus anything blowing beyond it can be composted. It's not absolutely essential to have a third pan except that it helps to set the speed so you can see what the fallout is, in case you've got it cranked up too fast.



In this photo you can see that we rigged up a pouring ledge so that the seeds fall in a thin “curtain” in front of the fan, not in thick clumps. This way each seed gets about the same amount of push from the air. We have 3 restaurant pans set up to collect the seed. If the fan were elevated above the table, there would be room for deeper pans which would be preferable to the shallow pans as the seeds do bounce a bit, especially when the pan is bare. Putting a towel in the first pan initially does help, and once there are seeds in the pan they will dampen the bouncing action as well. If you want more grades of seed separation, narrow pans such as bread loaf baking tins work well too.

You may need to rerun a batch if the separation is not as desired. For instance, sorghum hulls can cling to some of the seeds, and some additional friction threshing may be needed to break them loose which will require a final pass in front of the fan. Whatever set-up you devise, be sure to take notes so next time you'll have a starting point and you won't have to completely reinvent the process.



The photo at right shows winnowed amaranth as seen from above. At the bottom of the photo is the first pan with clean grain ready for use, the middle pan is grade #2 seed destined for the chickens and the top pan is chaff.